# Position Details

## Research Projects- CSOF6

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| The following information is for applicants | |
| Advertised Job Title | Senior Research Scientist |
| Job Reference | 92209 |
| Tenure | Indefinite |
| Salary Range | AU$121,455 - AU$$142,321 per annum (pro-rata for part-time)  plus, up to 15.4% superannuation. |
| Location(s) | Melbourne – Clayton strongly preferred but will consider Newcastle and other locations for the right candidate. Flexible/hybrid work arrangements are also available in any location. |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian/New Zealand Citizens and Australian Permanent Residents only |
| Position reports to the | Team Leader Building Energy Efficiency |
| Client Focus – Internal | 50% |
| Client Focus – External | 50% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Anthony Wright via email [anthony.wright@csiro.au](mailto:anthony.wright@csiro.au) or mobile 0412 812 708 |
| How to apply | Apply online at <https://jobs.csiro.au/>  Internal applicants please apply via **Jobs Central**  If you experience difficulties when applying, please email [careers.online@csiro.au](mailto:careers.online@csiro.au) or call 1300 984 220. |

**Acknowledgement of Country**

CSIRO acknowledges the Traditional Owners of the land, sea and waters, of the areas that we live and work on across Australia. We acknowledge their continuing connection to their culture and pay our respects to their Elders past and present. View our [vision towards reconciliation](https://www.csiro.au/en/about/Indigenous-engagement/Reconciliation-Action-Plan).

### Role Overview

The role of Research Project staff in CSIRO is to collaborate in scientific and technological activities with other research staff usually by assisting with detailed planning, undertaking or assisting with experimental, observational or technology development work, and in carrying out the more practical aspects of the work. At senior levels, Research Projects staff may be involved in providing consulting services, science and technology management and/or industry liaison.

CSIRO has a 60+ year history of developing algorithms to describe the movement of heat through building elements. This work has led CSIRO’s AccuRate software to become the benchmark tool for the Nationwide House Energy Rating Scheme (NatHERS). NatHERS underpins $50 billion in residential construction activity per year. AccuRate is underpinned by a thermal modelling engine called Chenath.

This role is a pivotal role in the ongoing development of AccuRate and the successful candidate will have the opportunity to influence and improve built form in Australia. Maintaining AccuRate requires three broad sets of interlinked skills: building physics (heat flow modelling), human comfort modelling and software development (Fortran, C++, .net). CSIRO is seeking a building physics expert to complement other comfort and software focussed staff. The role is a permanent, ongoing role with the potential for significant long-term career progression. The role will be mentored and supported for the first two years by existing building physics experts before taking the lead on the development of the Chenath thermal physics engine development.

The role comes at time of significant change in the NatHERS and the AccuRate software, and for the Chenath engine. The successful applicant will have the opportunity to contribute to the current cloud implementation, influence significant regulatory change, and to contribute to ongoing debates about programming languages, international standards, and forward-looking research.

This is an applied science role and is likely to be approximately 50% research and 50% implementation and the successful candidate will be expected to work with and share knowledge with thermal comfort researchers and software developers in the Building Energy Efficiency Team. We are seeking a highly motivated, mid-career researcher, who wants a long-term career in residential building physics and the opportunity to contribute meaningfully to improving the Australian built environment. The successful candidate will work in a large team of building scientists, data scientists, social scientists, and software developers as well as external stakeholders in government and industry.

This is a very rare opportunity for a long-term career role with the opportunity to make real change.

### Duties and Key Result Areas

* Apply specialist expertise to solve complex problems within a discipline or across a diverse range of projects.
* Be responsible for activities such as developing and delivering novel technologies, developing and implementing project plans, analysing, validating and reporting results within the constraints of various project plans.
* May extend existing scientific knowledge of experimental design or digital experiences via achievements which facilitate the development of new perspectives in a field, or fields of, research and/or technology.
* Address ill-defined problems and make critical choices between options that require knowledge of the most recent scientific and/or technological developments or novel methodologies.
* Maintain an awareness of trends in research, technology and cross-functional technological/scientific innovations to target opportunities for uptake of research or technology.
* Initiate projects in consultation with clients or CSIRO project teams and secure necessary resources.
* May lead or coordinate CSIRO’s contribution to collaborative projects involving other organisations.
* Ensure that client or end-user needs are met and typically have a leading role in the effective transfer of new technology to industry/community.
* Be accountable for the quality of the results delivered, the alignment of the project activities with the business, research and/or technology directions.
* Play a key advisory role in decisions concerning scientific and/or technological direction.
* Maintain a sound understanding of the client’s business or a market opportunity, negotiate work requirements with clients or project teams and ensure that client and project team needs are met.
* Act as a trusted advisor and demonstrate creativity to determine and anticipate client or project needs.
* Identify and adapt quickly to changes in client or project needs and changes in the external environment.
* Gain the support of influential clients for the goals of their project(s).
* Represent the organisation in external scientific or technological forums as required and may establish and lead such forums.
* Communicate openly, effectively and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* Work collaboratively as part of a multi-disciplinary, regionally dispersed research team to carry out tasks in support of CSIRO’s scientific objectives.
* Adhere to the spirit and practice of CSIRO’s Values, Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Zero Harm goals.
* Support CSIRO’s NatHERS workplan including the training, mentoring, PhD supervision and other support of future building sustainability researchers and leaders.
* Work with, develop and maintain nationally important datasets, potentially including personal information.
* Work with CSIRO’s commercial partners while maintaining research integrity, protecting intellectual property and managing commercial sensitivities and confidentiality.
* Manage project budgets.
* Other duties as directed.

## **Selection Criteria**

#### Essential

*Under CSIRO policy only those who meet all essential criteria can be appointed.*

1. A PhD in building thermal physics or similar.
2. A history of peer-reviewed publications.
3. A detailed understanding of energy modelling and modelling tools for residential buildings.
4. Familiarity with programming and software development, particularly in one or more of Fortran, C++ and .net and the demonstrated ability to pick up new software languages.
5. A demonstrated ability to manage complex research and/or software development projects.
6. A clear understanding of the Australian residential built environment including regulatory frameworks, energy efficiency regulations and major stakeholders.
7. Demonstrated desire to pursue a career in the field of built environment sustainability.

## **Desirable**

1. Deep knowledge of Fortran or C++, C# or python
2. Demonstrated understanding of contemporary software development practises including coding, documentation, record keeping, unit and functional testing etc.
3. Building modelling experience in the residential and commercial sectors.

## **Required Competencies**

* **Teamwork and Collaboration:** Cooperates with others to achieve organisational objectives and may share team resources in order to do this. Collaborates with other team as well as industry colleagues.
* **Influence and Communication:** Identifies critical stakeholders and influences them via an influential third party, for example through an established network, to gain support for sometimes contentious, proposals / ideas.
* **Resource Management/Leadership:** Sets up and maintains effective and efficient work teams and manages performance and resources, to achieve objectives. Chooses appropriate management strategies and communication styles to maintain high levels of motivation and productivity. Gives feedback for development purposes and provides support and direction for improvement.
* **Judgement and Problem Solving:** Anticipates and manages problems in ambiguous situations. Develops and selects an appropriate course of action and provides for contingencies. Evaluates, interprets and integrates complex bodies of information and draws logical conclusions, synthesises proposals and defends options with reasoned arguments.
* **Independence:** Assesses the risk and opportunity of identified strategies, options and actions. Overcomes problems and setbacks in achieving goals. Invariably includes consideration of value-added future impact on bottom line when determining the optimal and efficient use of resources.
* **Adaptability:**Demonstrates flexibility in thinking and adapts to and manages the increasing rate of organisational change by adjusting strategies, goals and priorities.

Special Requirements

Appointment to this role may be subject to conditions including provision of a national police check as well as other security/medical/character clearance requirements.

Include if relevant:

* The successful candidate will be asked to obtain and provide evidence of a National Police Clearance or equivalent. Please note that individuals with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/), <https://www.csiro.au/en/research/technology-space/energy> and <https://ahd.csiro.au/> for more information.

CSIRO is a values-based organisation.  In your application and at interview you will need to demonstrate behaviours aligned to our values of:

* People First
* Further Together
* Making it Real
* Trusted